

INTERNATIONAL SEARCH REPORT

International Application No.

PCT/EP 03/50216

10/519335

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C07K7/00 C07K14/705 C12N15/12 A61K48/00 C07K16/28
 G01N33/566 A61K38/17 A61P25/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C07K C12N G01N A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, MEDLINE, SEQUENCE SEARCH, EMBASE, CHEM ABS Data, BIOSIS

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 372 767 B1 (GROSS MICHAEL F ET AL) 16 Apr11 2002 (2002-04-16) column 2, line 61 -column 3, line 6; example 9 column 14, line 34 -column 16, line 56 ---	13-22
X	WO 99 31232 A (ZENECA LTD) 24 June 1999 (1999-06-24) page 4, line 19 -page 6, line 6 page 27, line 20 -page 29, line 28 page 41, line 4 -page 43, line 25 page 48, line 22 -page 49, line 14 ---	13-17, 19-22
A	---	29-49
X	WO 01 09612 A (DRESDEN ARZNEIMITTEL) 8 February 2001 (2001-02-08) claim 2 --- -/--	13-16

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents:

A document defining the general state of the art which is not considered to be of particular relevance

E earlier document but published on or after the international filing date

L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

O document referring to an oral disclosure, use, exhibition or other means

P document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

Z document member of the same patent family

Date of the actual completion of the international search

15 December 2003

Date of mailing of the international search report

05/01/2004

Name and mailing address of the ISA

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INTERNATIONAL SEARCH REPORT

International Publication No

PCT/EP 03/50246

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	TINEL N ET AL: "The KCNQ2 potassium channel: splice variants, functional and developmental expression. Brain localization and comparison with KCNQ3" FEBS LETTERS, ELSEVIER SCIENCE PUBLISHERS, AMSTERDAM, NL, vol. 438, no. 3, 6 November 1998 (1998-11-06), pages 171-176, XP004258585 ISSN: 0014-5793 the whole document ---	1-12
A	SMITH JEFFREY S ET AL: "Differential expression of KCNQ2 splice variants: Implications to M current function during neuronal development" JOURNAL OF NEUROSCIENCE, vol. 21, no. 4, 15 February 2001 (2001-02-15), pages 1096-1103, XP002265007 ISSN: 0270-6474 the whole document ---	1-12
A	WO 02 12279 A (BOUGUELERET LYDIE ;GENSET SA (FR); BIHAIN BERNARD (US); BOUR BARBA) 14 February 2002 (2002-02-14) page 74, line 12 -page 75, line 16 ---	29-49
P,X	WO 03 019186 A (BURBIDGE STEPHEN ANTONY ;GREEN PAULA (GB); MAIN MARTIN (GB); MEADO) 6 March 2003 (2003-03-06) page 12, paragraph 2; claims -----	13-16

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Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☒ Claims Nos.: 17-22 (partially)
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.2

Claims Nos.: 17-22 (partially)

Present claims 17-22 relate to the use of compounds defined by reference to a desirable characteristic or property, namely their ability to "modulate" a KCNQ2 polypeptide.

The claims cover all compounds having this characteristic or property, whereas the application provides support within the meaning of Article 6 PCT and/or disclosure within the meaning of Article 5 PCT for no such compounds. In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search over the whole of the claimed scope is impossible. Independent of the above reasoning, the claims also lack clarity (Article 6 PCT). An attempt is made to define the compounds by reference to a result to be achieved. Again, this lack of clarity in the present case is such as to render a meaningful search over the whole of the claimed scope impossible. Consequently, the search has been carried out for those parts of the claims which appear to be clear, supported and disclosed, namely for the general concept of the modulation of KCNQ2 polypeptide.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Publication No

PCT/EP 03/50246

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 6372767	B1	16-04-2002	US 2002052393 A1	02-05-2002
			US 2002091122 A1	11-07-2002
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			EP 1036175 A1	20-09-2000
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			JP 2003506050 T	18-02-2003
			TR 200200770 T2	21-03-2003
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			CA 2418779 A1	14-02-2002
			EP 1307560 A2	07-05-2003
			WO 0212279 A2	14-02-2002
			US 2003148389 A1	07-08-2003
WO 03019186	A	06-03-2003	WO 03019186 A2	06-03-2003